



2022 AGRONOMIC GUIDE



The flexibility of PrecisionPac® herbicides gives growers the power to fully customize their weed control.

The end result is:



High Performing Weed Control



Completely Customized Weed Control



Easy to Use



Right Product, Right Rate, Right Acre



Multiple Modes-of-Action



Pick Length Of Herbicide Activity



Reduced Waste



Constantly Evolving



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PrecisionPac® herbicides available: Minimum and Maximum acres per dispense

Product Name	Rate / Acre (g/acre)	MIN Acres	MAX Acres	Bag Size
NC Non-Crop Weed Control				
NC-0050	6.07	40	320	Medium
NC-00439	7.08	50	320	Medium
DB-878	46.07	20	160	Mega
	9			
CF herbicide	14	20	320	Mega
	18			
EC8' Extended Weed Control				
SZ-75	57	20	120	Large
SZ-0050	63.07	20	120	Large
PP Ø Post-Emergent Broadleaf	Weed Control			
PP-2525	12.14	20	320	Large
PP-23235	13.15	50	320	Large
PP-3317	12.15	20	320	Large
DB-8454	52.64	20	130	Mega
Ally® (high rate)	3	50	320	Medium
Ally® (low rate)	2	50	320	Medium
CS ♦ Cross-Spectrum Grassy and Broadleaf Weed Control				
CS-100-2525	40.14	20	200	Mega
CS-75-2525	33.14	20	220	Mega
CS-100-23235	41.15	50	200	Mega
CS-75-23235	34.15	50	220	Mega
CS-100-12	40	20	200	Mega
CS-75-12	33	20	220	Mega





Hard-hitting burnoff weed control with maximum flexibility

PrecisionPac® NC-0050 herbicide gives glyphosate a boost in pre-seed, chemfallow and post-harvest applications. Its systemic activity gets right to the root of your toughest weed problems, yet it leaves you with maximum cropping flexibility so you can seed a wide variety of crops 24 hours after application. As a PrecisionPac herbicide, you also get the flexibility to customize your package size to fit your sprayer tank or field size.

Weeds Controlled (NC-0050 herbicide plus 0.5 L/ac glyphosate equivalent)†:		Stage
Canada fleabane Common ragweed	Narrow-leaved hawk's-beard Scentless chamomile ¹	Up to 8 cm
Common chickweed (up to 8 leaf) Dandelion Downy brome Flixweed Giant foxtail Green foxtail Hemp-nettle Kochia (except Group 2 & 9 resistant biotypes) Lady's-thumb Lamb's-quarters	Persian darnel Redroot pigweed Russian thistle Stinkweed Volunteer barley Volunteer canola (including glyphosate tolerant) Volunteer flax Volunteer wheat Wild mustard Wild oats	Up to 15 cm
Cow cockle	Wild buckwheat	Up to 3-leaf
White cockle ¹	Canada thistle1	Rosette
¹ Suppression. [†] Original 360 g/L formulation		

PrecisionPac NC-0050 herbicide plus glyphosate on dandelion (Pre-seed burnoff) NC-0050 15 g/ha + glyphosate (833mL/ha) Untreated

Olds, AB, 2020 18 DAA



NC-0050 herbicide

- Tank-mix Options: PrecisionPac® NC-0050 herbicide can be tank-mixed with any glyphosate product plus Aim® EC herbicide, Authority® 480 herbicide (faba bean, field pea, soybean, spring wheat and durum wheat), 2,4-D Ester (summer fallow and post harvest), Authority® Supreme herbicide (field peas and soybeans) and Focus® herbicide (spring and winter wheat, soybeans).
- Timing: Add PrecisionPac NC-0050 herbicide to your glyphosate for:
 - pre-seed
 - chemfallow
 - post-harvest applications

Crop Rotation:

Pre-seed burnoff: Seed spring wheat, winter wheat, durum, barley, oats, alfalfa*, red clover*, alsike clover* (seed or forage production), smooth bromegrass*, meadow bromegrass*, timothy* and creeping red fescue*, canary seed and pulse crops** (including chickpeas, dry bean, faba bean, field pea, lentils, lupin and soybean) 24 hours after application.

*Note: injury may occur on coarse-textured soils, low in organic matter (less than 3%) or in fields with variable soils, gravely areas, sandy areas or eroded knolls. Avoid planting crops in soils containing more than 50% sand. Heavy rainfall soon after application may result in visual crop injury or possible yield reduction. Conditions such as thin crop stand, sandy soil or low soil organic matter may increase the severity of injury.

Chemfallow: Allow at least 10 days after treatment before tillage. Any of the above crops can be seeded 24 hours after application. Two (2) months after application, you can also seed canola, flax.

Fall application: Seed winter wheat 24 hours after application. Next spring you can seed any spring wheat (including durum), spring barley, oats, red clover, alsike clover, smooth bromegrass, meadow bromegrass, timothy, creeping red fescue, canola, flax, canary seed, field corn, alfalfa or pulse crops (including chickpeas, dry bean, faba bean, field pea, lentils, lupin and soybean) or the fields may be summerfallowed. To seed canola, flax or field corn the following spring after a fall application, contact FMC for specific timing of the fall application.

② Application Information:

Rates: 6.07 g/ac

Acres per grower bag: Minimum: 40 acres; Maximum: 320 acres

Surfactant: Not required when tank-mixed with a minimum of 0.5 L/ac equivalent of

alvphosate.

Water Volume: Minimum 5 imp. gal/ac

Mixing Instructions: For complete mixing instructions, see page 50.

Rainfastness: If rain occurs soon after application control may be reduced. Environmental conditions that slow the drying of the spray mixture on the foliage such as high relative humidity, cool air temperatures or cloud cover, may increase the time required.



NC-00439 herbicide

Multi-active burnoff with extended control

PrecisionPac® NC-00439 herbicide offers extended control of key broadleaf weeds in preseed, chemfallow and post-harvest applications. It can be applied up to 24 hours prior to seeding wheat (spring, durum, winter) or spring barley. When tank-mixed with glyphosate, PrecisionPac NC-00439 herbicide can provide up to 15 days of extended control* on some of the toughest weeds in your fields, including cleavers, dandelion, narrow-leaved hawk's-beard and volunteer canola.

Weeds Controlled (NC-00439 herbicide plus 0.5 L/ac glyphosate equivalent)†:		Stage
Canada fleabane Cleavers ^E Common ragweed	Narrow-leaved hawk's-beard ^E Scentless chamomile Night flowering catchfly ¹	Up to 8 cm
Chickweed		1 - 6 leaf
Dandelion ^E Downy brome Flixweed Giant foxtail Green foxtail Hemp-nettle Kochia (except Group 2 & 9 resistant biotypes) Lady's-thumb Lamb's-quarters Persian darnel	Redroot pigweed Russian thistle Stinkweed Volunteer barley Volunteer canola ^{E*} (including glyphosate tolerant) Volunteer flax Volunteer wheat Wild mustard Wild oats	Up to 15 cm
Cow cockle	Wild buckwheat	Up to 3 leaf
White cockle	Canada thistle ¹	Rosette
10		

¹ Suppression.

PrecisionPac NC-00439 herbicide plus glyphosate



^{*}Degree and duration of extended control is dependent on weed infestation levels and environmental conditions at and following application.

[†] Original 360 g/L formulation.

Extended control.

E* Will not provide extended control of Group 2 herbicide tolerant canola.



NC-00439 herbicide

- Tank-mix Options: PrecisionPac® NC-00439 herbicide can be tank-mixed with any glyphosate product plus Aim® EC herbicide and Focus® herbicide (spring and winter wheat).
- Timing: Pre-seed: Wait a minimum of 24 hours after the application of PrecisionPac NC-00439 herbicide and glyphosate before planting wheat (spring, durum, winter) or barley.

Note: Do not use on highly variable soils that have gravely or sandy areas, eroded knolls or calcium deposits. Heavy rainfall soon after application may result in visual crop injury or possible yield reduction. Conditions such as thin crop stand, sandy soil or low soil organic matter may increase the severity of injury.

Chemfallow: Allow at least 10 days after treatment before tillage.

Post-harvest: Apply to fields where wheat, barley or oats will be seeded next spring or fields may be summerfallowed.

Note: Limit of one application of PrecisionPac NC-00439 or any other herbicide containing metsulfuron, per growing season.

Crop Rotation:

24 hours: Fields treated with PrecisionPac NC-00439 herbicide may be seeded to wheat (spring, durum or winter) or spring barley

10 months: Canola, dry beans, fababeans, field corn, flax, lentils, peas and soybeans.

Post Harvest: Wheat (spring, durum), barley, oats may be seeded anytime in the following season.

② Application Information:

Rates: 7.08 g/ac

Acres per grower bag: Minimum: 50 acres; Maximum: 320 acres

Surfactant: Not required when tank-mixed with a minimum of 0.5 L/ac equivalent of glyphosate. If applying less than 0.5 L/ac glyphosate rate, the addition of a recommended non-ionic surfactant (NIS) at 3.5 L per 1000 L of spray solution (0.35% v/v) is required.

Water Volume: Minimum 5 imp. gal/ac

Mixing Instructions: For complete mixing instructions, see page 50.

Rainfastness: If rain occurs soon after application, control may be reduced. Environmental conditions that slow the drying of the spray mixture on the foliage, such as high relative humidity, cool air temperatures or cloud cover, may increase the time

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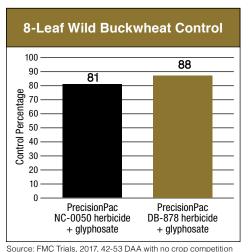


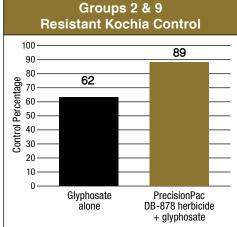
DB-878 herbicide

Resistance management customized to your weed spectrum

PrecisionPac® DB-878 herbicide is a customized burnoff add-in that gets right to the root of your toughest weed problems in wheat (spring, durum or winter), spring barley and oats. Because of its built-in multiple modes of action, PrecisionPac DB-878 herbicide provides an excellent resistance management tool for pre-seed control of key broadleaf weeds like kochia, narrow-leaved hawk's-beard, dandelion and wild buckwheat.

Weeds Controlled (DB-878 he	erbicide plus 0.5 L/ac glyphosate equivalent)†:	Stage
Canada fleabane Common ragweed Kochia (including Gr. 2 & 9 resistant biotypes)	Narrow-leaved hawk's-beard Scentless chamomile ¹	Up to 8 cm
Cleavers Dandelion Downy brome Flixweed Giant foxtail Green foxtail Hemp-nettle Lady's-thumb Lamb's-quarters Persian darnel	Redroot pigweed Russian thistle Stinkweed Volunteer barley Volunteer canola (including glyphosate- tolerant varieties) Volunteer flax Volunteer wheat Wild mustard Wild oats	Up to 15 cm
Cow cockle		Up to 3 leaf
Wild buckwheat		Up to 8 leaf
Canada thistle ¹	White cockle ¹	Rosette
¹ Suppression. † Original 360 g/L formulation		





Source: FMC Trials, 2015, 39-57 DAA



DB-878 herbicide

- Tank-mix Options: PrecisionPac® DB-878 herbicide must be tank-mixed with a glyphosate product plus Aim® EC herbicide, 2,4-D Ester, Focus® herbicide (spring and winter wheat), or Authority® 480 herbicide (spring wheat and durum wheat).
- ▼ Timing: Add PrecisionPac DB-878 herbicide to your glyphosate for pre-seed, chemfallow or post-harvest.

Pre-seed burnoff: May be seeded to wheat (spring, durum or winter), spring barley or oats a minimum of 24 hours after application.

Chemfallow: May be seeded to any crop the following season.

Post-harvest: May be spring seeded to spring and durum wheat, barley and oats. To seed canola, field corn, lentils, soybean, or white beans the spring after a fall application, contact FMC for specific timing of the fall application.

Application Information:

Rates: 46.07 g/ac

Acres per grower bag: Minimum: 20 acres; Maximum: 160 acres

Surfactant: Not required when tank-mixed with a minimum of 0.5 L/ac equivalent of

glyphosate.

Water volume: Minimum 5 imp. gal/ac

Mixing Instructions: For complete mixing instructions, see page 50.

Rainfastness: If rain occurs soon after application, control may be reduced. Environmental conditions that slow the drying of the spray mixture on the foliage, such as high relative humidity, cool air temperatures or cloud cover, may increase the time required.





CF herbicide

A flexible tank-mix partner for enhanced burnoff

New PrecisionPac® CF herbicide provides effective, quick burnoff of hard-to-control weeds, all with the customizable package size and rates that make PrecisionPac herbicides unique. This Group 14 herbicide also controls glyphosate-resistant biotypes and has a low volume rate for protection in a broad range of crops. Plus, with multiple rate and tank-mix options, they get the best agronomic fit for their weed spectrum and timing.

Produce Use and Weed Control	Rate	
For newly emerged weeds or when using with a tank-mix partner: Black nightshade (up to 5 cm tall) Eastern black nightshade (up to 5 cm tall) Lamb's-quarters (up to 7.5 cm tall) Morning glory (up to 3 leaf) Redroot pigweed Tall waterhemp (up to 5 cm tall) Velvetleaf	9 g/ac	All blends available in 20-acre to 320-acre bags.
For wider weed spectrum, moderate pressure and larger weeds: All the above weeds, plus Flixweed Hairy nightshade Lamb's-quarters Morning glory Pennsylvania smartweed (seedling) Pigweed (prostrate, smooth, tumble) Purslane Round-leaved mallow Stinkweed Tansy mustard Waterhemp (tall, common)	14 g/ac	
For glyphosate-resistant weeds, large overwintering cleavers and heavy/larger weeds All the above weeds, plus Black nightshade Carpetweed Cleavers Cocklebur Eastern black nightshade Jimsonweed Kochia Russian thistle (up to 5 cm tall) Shepherd's-purse Volunteer canola (up to 4 leaf stage)*	18 g/ac	
*All herbicide-tolerant canola		



CF herbicide



Untreated

CF Herbicide 18 g/ac + Glyphosate

Photos taken June 18th, 2020 Location: Colonsay SK, CRO: Mike Steckler

Crops:

Pre-seed burnoff: Barley, canola, chickpea, corn (field, sweet and pop), dry bean, faba bean, field pea, flax, lentil, mustard, oats, soybean, sunflower, wheat (spring, durum, winter)

Fallow systems: Same as above

Tank-mix options:

Tank-mix with glyphosate recommended. 2,4-D ester, Express® SG herbicide, Express® PRO herbicide, Express® FX herbicide, MCPA, Authority® 480 herbicide, Authority® Supreme herbicide, Command® 360 ME herbicide, PrecisionPac® NC-0050, Nufarm Koril® 235, IPCO Brotex® 240, 480 and 4AT, Bromotril 240 EC and Bromotril II 240 EC, PrecisionPac® DB-878, PrecisionPac® NC-00439

U Timing: Pre-seed and pre-emergence application

② Application Information:

Surfactant: None required when tank-mixing with glyphosate. Use Agral® 90 or Ag-Surf® at 0.25% v/v or Merge® at 1% v/v if used alone or with certain tank mixes as indicated on the label.

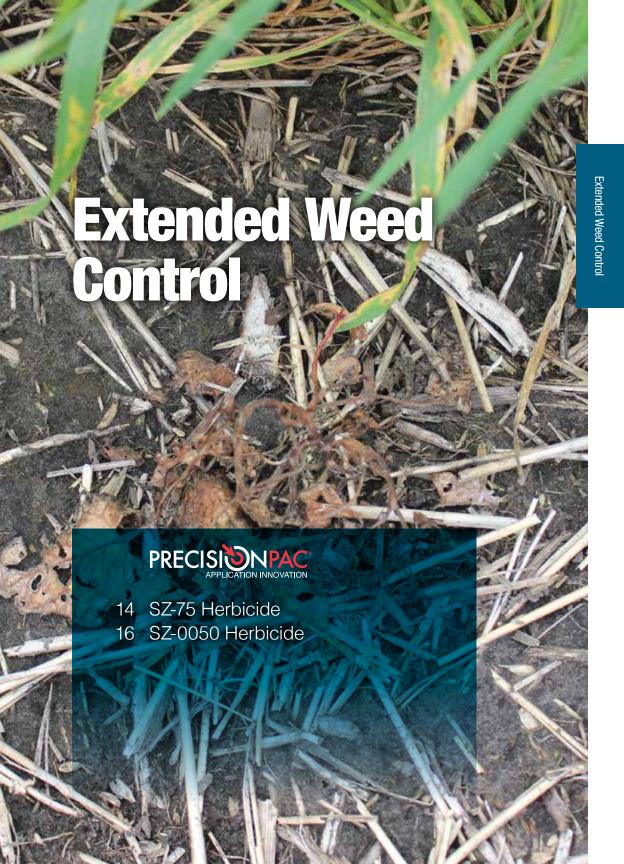
Water Volume: 10 US gal/ac (100 L/ha).

Rainfastness: CF herbicide is rapidly absorbed through the foliage of plants. Rainfall soon after application may reduce efficacy.

Tank-mixtures: Fill spray tank one-half to two-thirds full of water. With agitator operating, add the recommended amount of ingredients using the WAMLEGS order. See page 50 of this guide.



Notes





SZ-75 herbicide

Give your crop the clean start it deserves

PrecisionPac® SZ-75 herbicide is a flexible pre-emergent Group 14 herbicide for soybeans, faba beans, field peas, flax, chickpeas, sunflowers and wheat (spring and durum).

PrecisionPac SZ-75 herbicide has best in class control of kochia, including Group 2 and 9 resistant biotypes.

Only use PrecisionPac SZ-75 herbicide or any product containing sulfentrazone one out of every two years.

Weeds controlled

Kochia (including Group 2, 4 and 9 bio types)

Russian thistle (suppression)



SZ-75 on chickpeas, Gravelbourg, SK. 3 foot drill miss. 57 g/ac applied May 2, 2020. Picture taken June 9, 2020



SZ-75 herbicide

Crops: Chickpeas, faba beans, field peas, flax, sunflowers, soybeans, spring wheat, durum wheat

Tank-mix Options:

(Consult the tank-mix partner label for specific application use and restrictions. Always follow the most restrictive label)

- Glyphosate
- NC-0050 + glyphosate

Crops: faba beans, field peas, soybeans, wheat (durum and spring)

- Aim® EC herbicide
- DB-878

Crops: wheat (durum and spring)

Timing:

Apply pre-plant or post-seeding (up to 3 days after seeding).

Note: PrecisionPac® SZ-75 herbicide requires 1/2" of rainfall for activation. For best control, SZ-75 Herbicide should be applied when there are no weeds present or a postemergence herbicide is tank mixed to remove emerged weeds.

Crop Rotation:

Anytime: Chickpeas, faba beans, field peas, flax, soybeans, sunflowers, spring wheat,

durum wheat

4 months: Winter wheat

12 months: Alfalfa, barley, canola, field corn 24 months: Lentils, sorghum, sweet corn, popcorn

② Application Information:

Rates: 57 g/ac

Acres per grower bag: Minimum: 20 acres; Maximum: 120 acres

Water volume: Minimum 10 imp gal/ac

If tank-mixing with glyphosate, use glyphosate at a rate of 450 g ae/ha.

PrecisionPac SZ-75 herbicide should be applied in a uniform broadcast soil application.

Restrictions:

Make one pre-plant or pre-emergence application per season.

Do not apply to soils classified as coarse-textured soils.

Do not apply in fine-textured soils with less than 1.5% organic matter.

Do not use on any type of soils with an organic matter content greater than 6%.

Do not use on soils with a pH of 7.8 or greater.

Do not tank mix with Chateau® herbicides (flumioxazin) or with other products containing sulfentrazone.

Do not apply SZ-75 herbicide (or any other product containing sulfentrazone) to spring wheat if an application of Focus® herbicide (or any other product containing pyroxasulfone) was applied in the previous fall.





SZ-0050 herbicide

Enhancing control during weed-friendly conditions

Two active ingredients give PrecisionPac® SZ-0050 herbicide consistent control, stopping the growth of a wide range of broadleaf weeds – including Group 2 and Group 9 resistant kochia. For use in faba beans, field peas, soybeans and spring wheat (including durum), PrecisionPac SZ-0050 herbicide also controls narrow-leaved hawk's beard and suppresses Canada thistle. Warm and moist growing conditions enhance the effectiveness of PrecisionPac SZ-0050 herbicide by maximizing foliar uptake and contact activity.

Weeds cor	trolled: PrecisionP	ac SZ-0050 herbicide plus Glyphosate
Pre-emergent	Kochia (including Gr	roup 2, Group 4 and Group 9 resistant biotypes)
Up to rosette	Canada thistle* White cockle*	
Up to 8 cm	Canada fleabane Common ragweed Narrow-leaved hawk Scentless camomile	
Up to 15 cm	Cleavers Dandelion Downy brome Flixweed Giant foxtail Green foxtail Hemp nettle Kochia Lady's thumb Lamb's-quarters	Persian darnel Redroot pigweed Russian thistle Stinkweed Volunteer barley Volunteer canola (including glyphosate tolerant varieties) Volunteer flax Volunteer wheat Wild mustard Wild oats
Up to 3-leaf stage	Cow cockle Wild buckwheat	
Up to 8-leaf stage	Common chickweed	

^{*} Suppression



SZ-0050 herbicide

- Crops: Faba beans, field peas, soybeans, spring wheat, durum wheat
- Tank-mix options: PrecisionPac® SZ-0050 herbicide can be tank-mixed with glyphosate

Timing:

PrecisionPac SZ-0050 herbicide can be applied pre-plant. Fields treated with this tank-mix can be seeded to faba beans, field peas, soybeans or spring wheat (including durum) a minimum of 24 hours after application.

DO NOT APPLY PrecisionPac SZ-0050 herbicide TO FIELDS PREVIOUSLY TREATED WITH PrecisionPac SZ-75 herbicide or AUTHORITY® 480 herbicide or any other product that contains sulfentrazone IN CONSECUTIVE YEARS (24 MONTHS). In case of drought in any of those years, a subsequent application of PrecisionPac SZ-0050 herbicide should be further delayed by the equivalent number of years in which drought occurred.

Crop Rotation:

0 months: Faba beans, field peas, soybeans, spring wheat and durum wheat can be planted 24 hours after applying PrecisionPac SZ-0050 herbicide. Longer intervals exist for other crops: **2 months:** Flax

4 months: Winter wheat

12 months: Alfalfa, barley, broccoli, cabbage, canola, cauliflower, corn (field), horseradish, potatoes, sunflowers, tame mustard, tomato (transplants)

24 months: Corn (sweet and pop), lentils, sorghum

② Application information

Rate: Apply PrecisionPac SZ-0050 herbicide at 63.07 grams/acre tank mixed with glyphosate.

Injury to pulse crops may occur on coarse-textured soils, low in organic matter (less than 3%), or in fields with variable soils, gravely areas, sandy areas or eroded knolls. Avoid spraying PrecisionPac SZ-0050 herbicide when planting pulse crops in soils containing more than 50% sand.

Water volume: A minimum spray solution of 10 gal/ac should be used to ensure uniform spray coverage.

Mixing instructions: For complete mixing instructions, see page 50.

Rain activation: PrecisionPac SZ-0050 herbicide requires a minimum of 18 mm of rain or irrigation water to be effective.





Notes





PP-2525 herbicide

Gentle on crops, tough on the toughest weeds

For consistent in-crop weed control in spring wheat, winter wheat, durum, barley and oats*, PrecisionPac® PP-2525 herbicide controls a wide spectrum of weeds, including narrow-leaved hawk's-beard, hemp-nettle, redroot pigweed, cow cockle and volunteer canola. A fit in all major soil zones, PrecisionPac PP-2525 herbicide offers tank-mix and re-cropping flexibility.

Major weeds controlled

Annual smartweed

Cleavers1

Common chickweed

(1-6 leaf)

Cow cockle

Dandelion²

Flixweed

Hemp-nettle

Kochia¹ (including Group 2 resistant biotypes, seedling

up to 10 cm)

Lamb's-quarters

Narrow-leaved hawk's-

beard

Night flowering catchfly

Redroot pigweed

Round-leaved mallow1

Russian thistle
Perenial sow thistle

Scentless chamomile²

Shepherd's-purse¹

Stinkweed

Stork's-bill1

Volunteer canola³

Volunteer flax1

Wild buckwheat

Wild mustard

White cockle²

Weeds suppressed

Canada thistle (≤15 cm)

- ¹For control, tank-mix with Perimeter[®] II.
- ² For control, tank-mix with MCPA Ester.
- ³ Tank-mix with MCPA Ester to control Group 2 herbicide tolerant canola.

Wild buckwheat control



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^{*} only when tank-mixed with MCPA Ester



PP-2525 herbicide

Crops: Wheat (spring, durum, winter), barley and oats* * only when tank-mixed with MCPA Ester

Tank-mix Options:

2,4-D Ester 700LV: Enhanced broadleaf weed control.

Axial®: Wild oats control in spring wheat and barley.

Axial® + MCPA Ester: Wild oats and broadleaf weed control (including volunteer

Clearfield® canola varieties) in spring wheat and barley.

Axial® Xtreme: Wild oats and broadleaf weed control including kochia and cleavers in spring wheat and barley.

Banvel® II: Extended broadleaf weed control, plus Group 2-resistant kochia.

Everest® 3.0AG / Sierra® 3.0AG: One-pass grass and broadleaf weed control in spring wheat. **Clodinafop:** One-pass grass and broadleaf weed control in spring and durum wheat.

MCPA Ester: Enhanced broadleaf weed control.

Perimeter® II: For added broadleaf control including cleavers and kochia.

Puma® Advance: One-pass grass and broadleaf weed control.

Simplicity™ GoDri™: One-pass grass and broadleaf weed control in spring and durum wheat.

Traxos®: Wild oats and broadleaf weed control in spring and durum wheat.

Varro™: One-pass grass and broadleaf weed control in spring and durum wheat.

- Timing: Wheat (spring, durum and winter) and barley: 2-leaf to just before the flag leaf.
 Oats with the addition of MCPA Ester: 3-leaf to just before the flag leaf.
- Crop Rotation: Two (2) months: Alfalfa, canola, flax and lentils. Following growing season: All crops.

② Application Information:

Rates: 12.14 g/ac

Acres per grower bag: Minimum: 20 acres; Maximum: 320 acres

Surfactant: Add a registered surfactant such as Agral® 90, Ag-Surf®, Liberate Adjuvant, Ag-Surf® II, HiActivate® Non-ionic Liquid Spreader/Activator, Super Spreader Adjuvant or Enhance® at a rate of 2 L per 1000 L spray solution when used alone or when tank mixing with 2, 4-D Ester or Perimeter II. When tank-mixing with a grass herbicide, use the surfactant provided with the product.

Water Volume: Minimum 5 imp. gal/ac.

Rainfastness: One (1) hour

Mixing Instructions: For complete mixing instructions, see page 50.

PrecisionPac PP-2525 herbicide is also registered for aerial application.





PP-23235 herbicide

Biennial and perennial weed specialist for dark brown, black and grey soil zones

PrecisionPac® PP-23235 herbicide provides premium control of a broad spectrum of weeds, with particularly good performance on perennial and biennial weeds.

Major weeds controlled

Annual smartweed Annual sow thistle*

Canada thistle¹ (top growth)

Cleavers² (1-6 whorl)

Common chickweed (up to

6 leaf)

Cow cockle

Dandelion (spring or fall rosettes

up to 20 cm in diameter)

Flixweed

Hemp-nettle

Kochia² (Up to 10cm)

Lamb's-quarters

Narrow-leaved hawk's-beard

(Up to 20cm)

Night-flowering catchfly

Perennial sow thistle Redroot pigweed

Round-leaved mallow (1-6 leaf)

Russian thistle

Scentless chamomile

Shepherd's-purse (up to 20 cm)

Stinkweed

Stork's-bill

Volunteer canola**

(2-4 leaf stage)
Volunteer flax² (up to 12cm

in height)

White cockle

Wild buckwheat

Wild mustard

Note: DO NOT use PrecisionPac PP-23235 herbicide in the same year if you've used a pre-seed burnoff with PrecisionPac® NC-00439 herbicide or Express® PRO herbicide.

Volunteer canola control

POWERED BY SOLUMAX®

¹ Suppression.

² For control tank-mix with Perimeter® II

^{*} For control, tank-mix with MCPA Ester.

^{**} Including Group 2 herbicide tolerant canola when tank-mixed with MCPA.



PP-23235 herbicide

Crops: Wheat (spring, durum) and barley

Tank-mix Options:

2,4-D Ester LV 700: For enhanced broadleaf weed control.

Axial® + Perimeter® II: Wild oats and broadleaf weed control in spring wheat and barley.

Axial® + MCPA Ester + Perimeter II: Wild oats and broadleaf weed control (including volunteer Clearfield® canola varieties) in spring wheat and barley.

Axial® Xtreme: Wild oats and broadleaf weed control including kochia and cleavers in spring wheat and barley.

Everest® 3.0AG / Sierra® 3.0AG: One-pass grass and broadleaf weed control in spring wheat.

Clodinafop: Wild oat, green foxtail and broadleaf weed control in spring and durum wheat.

Perimeter II: For added broadleaf control, including cleavers and kochia.

Perimeter II + MCPA Ester: For added broadleaf weed control (including volunteer Clearfield canola varieties) in spring wheat and barley.

Puma® Advance: One-pass grass and broadleaf weed control.

Varro™: One-pass grass and broadleaf weed control in spring and durum wheat.

Simplicity™ GoDri™: One-pass grass and broadleaf weed control in spring and durum wheat.

- U Timing: Wheat (spring, durum) and barley: 2-leaf to just before the flag leaf
- **Crop Rotation:** 10 months: Canola, lentils, dry beans, faba beans, field corn, soybeans, oats, field peas and flax.

② Application Information:

Rates: 13.15 g/ac

Acres per grower bag: Minimum: 50 acres; Maximum: 320 acres

Surfactant: Add a registered surfactant such as Agral® 90, Ag-Surf®, Liberate Adjuvant, Ag-Surf® II, HiActivate® Non-ionic Liquid Spreader/Activator, Super Spreader Adjuvant or Enhance® at a rate of 2 L per 1000 L spray solution when used alone or when tank mixing with 2, 4-D Ester or Perimeter II. When tank-mixing with a grass herbicide, use the surfactant provided with the product.

Water Volume: Minimum 5 imp. gal/ac.

Rainfastness: One (1) hour.

Mixing Instructions: For complete mixing instructions, see page 50.





PP-3317 herbicide

Proven performance with maximum flexibility

PrecisionPac® PP-3317 herbicide delivers exceptional value with proven performance on wild buckwheat (up to the 5-leaf stage), hemp-nettle, narrow-leaved hawk's-beard and chickweed in spring wheat, durum, barley, oats and winter wheat. You can further customize your weed control with 20 tank-mix options, including Perimeter® II for improved control of kochia and cleavers. Plus, it leaves you with complete re-cropping flexibility the following year.

Major weeds controlled

Ball mustard Hemp-nettle Stinkweed

Chickweed (1–6 leaf)

Common groundsel

Corn spurry

Cow cockle

Flixweed

Lady's-thumb

Lady's-thumb

Lady's-thumb

Lamb's-quarters

Volunteer canola¹

Volunteer sunflower

Wild buckwheat

(up to the 5-leaf stage)

Green smartweed Shepherd's purse Wild mustard

Weeds suppressed

Canada thistle Scentless chamomile Stork's-bill (2–6 leaf)

Cleavers (1-3 whorls)

Sow-thistle

Toadflax

Round-leaved mallow

¹For control of Group 2 herbicide tolerant varieties tank-mix with MCPA Ester.

Wild buckwheat



One (1) week after application



Three (3) weeks after application



PP-3317 herbicide

Crops: Wheat (spring, durum, winter), barley, oats and grass species (forage and seed production), meadow bromegrass, pubescent wheatgrass, smooth bromegrass, tall wheatgrass, creeping red fescue, slender wheatgrass, tall fescue, streambank wheatgrass, orchard grass, northern wheatgrass, crested wheatgrass, western wheatgrass, intermediate wheatgrass, Kentucky bluegrass (established only)

Tank-mix Options:

• 2.4-D • Curtail® M

• Assert® • Clodinafop

Attain®
 Everest® 3.0AG / Sierra® 3.0AG

• Axial® / Brazen® • Everest 3.0 + 2,4-D (Amine or Ester)

Axial[®] Xtreme
 Lontrel[™]

Banvel® II
 MCPA

• Perimeter® II

• Puma® Advance

Simplicity[™] GoDri[™]

• Traxos® (wild oats only)

Varro[®]

- Timing: Wheat (spring, durum, winter), oats, barley and grass stands: 2-leaf to full flag leaf
- Crop Rotation: Two (2) months: Alfalfa, canola, flax, and lentils Following year: No re-cropping restrictions

Application Information:

Rates: 12.15 g/ac

Acres per grower bag: Minimum: 20 acres; Maximum: 320 acres

Surfactant: Add a registered non-ionic surfactant (NIS) at 2 L per 1000 L of spray solution. When tank-mixing with a grass herbicide, use the surfactant provided with

the product.

Water Volume: Minimum 5 imp. gal/ac

Rainfastness: One (1) hour

Aerial Application: PrecisionPac® PP-3317 herbicide is registered for aerial application.

See label for further details.

Mixing Instructions: Ensure that PrecisionPac PP-3317 herbicide is fully dissolved before adding tank-mix partners. For complete mixing instructions, see page 50.

POWERED BY SOLUMAX®



DB-8454 herbicide

Weed control for the brown soil zone

PrecisionPac® DB-8454 herbicide provides control of the toughest weeds in the brown soil zones, especially when it comes to annual weeds like wild buckwheat, stinkweed, volunteer canola and flixweed. It also offers solid control of Group 2-resistant kochia, narrow-leaved hawk's-beard, dandelion and Russian thistle. It contains both Groups 2 and 4 to help manage weed resistance and can be used in spring wheat, durum and barley.

Major weeds controlled		
Dandelion (spring or fall rosettes <15 cm in diameter)	Kochia (seedling to 8-leaf stage) (including Group 2-resistant) Narrow-leaved hawk's-beard	Russian thistle Wild buckwheat (up to 5-leaf)
Also controls		
Annual smartweed (Green smartweed and Lady's-thumb) Ball mustard Chickweed (1–6 leaf) Common groundsel	Corn spurry Cow cockle Flixweed Hemp-nettle Lamb's-quarters Redroot pigweed	Shepherd's purse Stinkweed Tartary buckwheat Volunteer canola* Volunteer sunflower Wild mustard
Weeds suppressed	0 11 1 11	0. 1. 1. 1. 1. 1. 0. 0. 1. 0.
Canada thistle Cleavers (1–3 whorls) Round-leaved mallow (2-6 leaf)	Scentless chamomile Sow thistle (<15 cm in height)	Stork's-bill (2–6 leaf) Toadflax (<15 cm in height)
*excluding group 2 herbicide tolera	nt canola	



DB-8454 herbicide

Crops: Wheat (spring, durum) and barley

Tank-mix Options:

Traxos[®]: One-pass grass and broadleaf weed control in spring and durum wheat.

Clodinafop: One-pass grass and broadleaf weed control in spring and durum wheat.

Everest® 3.0AG / Sierra® 3.0AG: One-pass grass and broadleaf weed control in spring and durum wheat.

Perimeter® II: For added broadleaf control, including cleavers and kochia.

- Timing: Wheat (spring, durum) and barley: 2-leaf to 5-leaf
- Crop Rotation: Any crop can be seeded the year following the application of PrecisionPac® DB-8454 herbicide.

② Application Information:

Rates: 52.64 g/ac

Acres per grower bag: Minimum: 20 acres; Maximum: 130 acres

Surfactant: Add a registered surfactant such as Agral® 90, Ag-Surf® or Citowett® Plus at a rate of 2 L per 1000 L of spray solution. When tank-mixing with a grass herbicide, use the surfactant provided with the product.

Water Volume: Minimum 5 imp. gal/ac

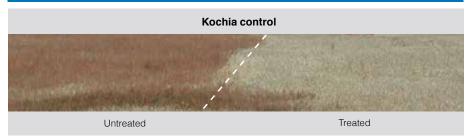
Rainfastness: Four (4) hours

Aerial Application: PrecisionPac DB-8454 herbicide is registered for aerial application.

See label for further details.

Mixing Instructions: Ensure that PrecisionPac DB-8454 herbicide is fully dissolved. Reduce agitation then add tank-mix partner. If required, add the surfactant last. For complete mixing instructions, see page 50.

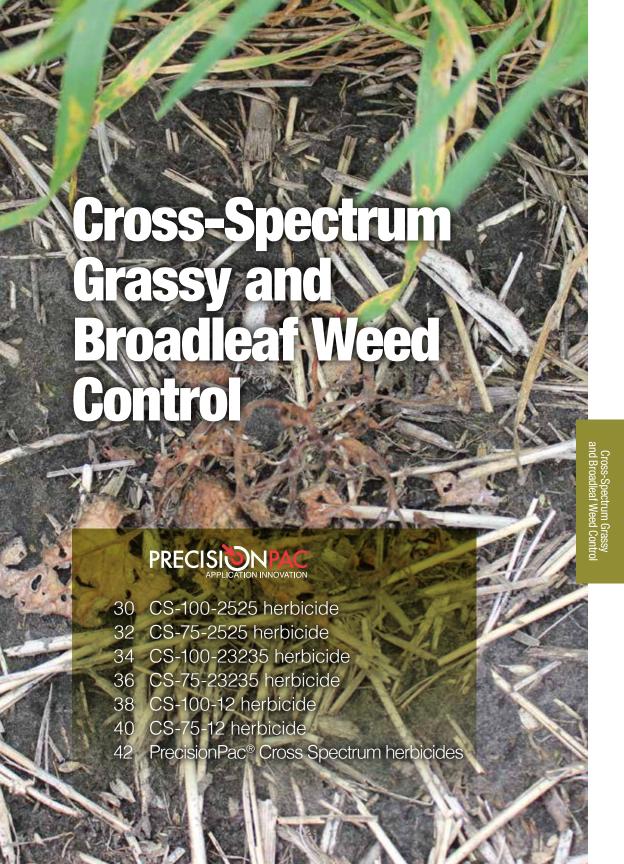
POWERED BY SOLUMAX®



Refer to the PrecisionPac DB-8454 herbicide label for complete use instructions.



Notes





CS-100-2525 herbicide

One-pass grassy and broadleaf weed control tailored to your farm

PrecisionPac® CS-100-2525 herbicide offers tailor-made, one pass weed control for spring and durum wheat. PrecisionPac CS-100-2525 herbicide delivers outstanding control of your toughest broadleaf and grassy weeds, including Group 1-resistant wild oats, Japanese brome, dandelion¹ and narrow-leaved hawk's-beard. As a PrecisionPac herbicide, you also get the flexibility to customize your package size to fit your sprayer tank or field size.

Grassy weeds controlled

Barnyard grass (1-5 leaf)

Downy brome¹ (2-6 leaf, 4 tiller)

Green foxtail¹ (1-5 leaf)

Japanese brome (1-6 leaf)
Persian darnel¹ (1 - 4 leaf, 2 tiller)

Wild oats

(up to 4 leaf, 2 tiller) Yellow foxtail (1-5 leaf)

Broadleaf weeds controlled

Annual smartweed (green smartweed, lady's thumb)
Canada thistle¹

(up to 30 cm tall, pre-bud)

Cleavers (up to 6 whorl)

Common chickweed (up to 10 cm)

Corn spurry (up to 2 whorl stage, <10 cm in height)

Cow cockle

Dandelion¹ (seedlings and overwintered rosettes less than or equal to 20 cm)

Flixweed Hemp-nettle Kochia³

Lamb's-quarters

Narrow-leaved hawk's-beard

Night flowering catchfly Perennial sow thistle

Redroot pigweed

Round-leaved mallow (up to 6 leaf stage, <10 cm in

size)

Russian thistle

Shepherd's purse (up to 20 cm tall)

Stinkweed (up to 30 cm tall)

Stork's bill³ (1-6 leaf)

Volunteer tolerant canola²

(1-6 leaf)

Volunteer flax³ (up to 12 cm in height)

in height)

Wild buckwheat Wild mustard

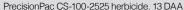
¹Suppression

² Tank-mix with MCPA Ester to control Group 2 tolerant canola.

3 For control tank-mix with Perimeter® II herbicide

Outstanding grassy and broadleaf weed control in seeding miss







Untreated Check

Source: Carman, MB, 2016



CS-100-2525 herbicide

Crops: Wheat (spring and durum)

Tank-mix Options:

Perimeter® II: For added broadleaf control including kochia (including Group 2 resistant biotypes; seedling to 8-leaf stage), volunteer flax (up to 12 cm in height) and stork's bill (1-6 leaf).

2,4-D Ester: For added control of kochia (including group 2 resistant biotypes)

MCPA Ester: For control of volunteer Group 2 herbicide tolerant canola, dandelion, scentless chamomile and white cockle.

- U Timing: Spring and durum wheat: 3 leaf to before the flag leaf stage
- Crop Rotation: 11 months: barley, brown mustard, canola, dry bean (of the species Phaseolus vulgaris), flax, canola quality Brassica juncea, lentils, oats, field peas, chickpea, spring wheat, soybean and yellow mustard or fields can be summerfallowed.
 10 months: field corn, sunflower and potatoes.

② Application Information:

Rates: 40.14 g/ac

Acres per grower bag: Minimum: 20 acres; Maximum: 200 acres

Surfactant: Add Agral® 90, Liberate® Adjuvant, Ag-Surf® II, HiActivate® Non-ionic Liquid Spreader/Activator, Super Spreader Adjuvant, Enhance®, Pro-Surf® II or Sentry® at 2.5 L per 1000 L of spray solution.

Water Volume: 5-10 imp. gal/ac Rainfastness: Two (2) hours

Mixing Instructions: Ensure that PrecisionPac® CS-100-2525 herbicide is fully dissolved before adding tank-mix partners. For complete mixing instructions, see page 50.

PrecisionPac CS-100-2525 herbicide is also registered for aerial application.



Source: Carman, MB, 2016. 29 DAA



CS-75-2525 herbicide

Great weed control, exceptional value

PrecisionPac® CS-75-2525 herbicide is a cost-effective, all-in-one solution for controlling lower wild oat populations that combines a reduced rate of our pyroxsulam with PrecisionPac PP-2525 herbicide. That way, you get wild oat activity without compromising on exceptional broadleaf weed control in your spring and durum wheat.

Grassy weeds controlled

Wild oats* (up to 4 leaf, 2 tiller)

Japenese brome (1 leaf to 4 leaf, 2 tiller stage; under good growing conditions)

Perennial sow thistle

Scentless chamomile3

Redroot pigweed

Russian thistle

Broadleaf weeds controlled

Annual smartweed (green Hemp-nettle smartweed, lady's thumb)

Kochia4 Canada thistle1 Lamb's-quarters

Cleavers4 (1-6 whorl) Narrow-leaved hawk's-beard

Common chickweed (1-6 leaf) Night flowering catchfly Cow cockle

Dandelion³ (spring and fall rosettes, up to

15 cm in diameter)

Flixweed *For control of low wild oat populations (<75 plants/m²) only

¹ Suppression

² Tank-mix with MCPA Ester to control Group 2 herbicide tolerant canola

3 When tank-mixed with MCPA

⁴For control tank-mix with Perimeter® II herbicide

Stinkweed

Stork's bill⁴ (1-6 leaf) Volunteer canola 2,

(1-6 leaf)

Volunteer flax4 (up to 12 cm in height) White cockle³ Wild buckwheat Wild mustard



CS-75-2525 herbicide

Crops: Wheat (spring and durum)

Tank-mix Options:

Perimeter® II: For added broadleaf control including cleavers, kochia, stork's-bill and volunteer flax

2,4-D Ester: For additional kochia control, including group 2 biotypes

MCPA Ester: For control of volunteer Group 2 herbicide tolerant canola, dandelion, scentless chamomile and white cockle.

U Timing: Spring and durum wheat (3-leaf to before the flag leaf stage)

Crop rotation:

11 months: Barley, brown mustard, canola, dry bean (of the species *Phaseolus vulgaris*), flax, canola quality Brassica juncea, lentils, oats, field peas, chickpea, spring wheat, soybean and yellow mustard or fields can be summerfallowed

10 months: field corn, sunflower and potatoes

② Application Information:

Rates: 33.14 g/ac use when wild oat populations are <75 plants/m² Acres per grower bag: Minimum: 20 acres; Maximum: 220 acres

Surfactant: Add a registered non-ionic surfactant (NIS) such as: Agral® 90, Liberate® Adjuvant, Ag-Surf® II, HiActivate® Non-ionic Liquid Spreader/Activator, Super Spreader Adjuvant, Enhance, Pro-Surf® II or Sentry® at 2.5 L per 1000 L of spray solution.

Rainfastness: Two (2) hours Water volume: 5-10 imp gal/ac

Mixing Instructions: Ensure that PrecisionPac® CS-75-2525 herbicide is fully dissolved before adding tank-mix partners. For complete mixing instructions, see page 50.

PrecisionPac CS-75-2525 herbicide is also registered for aerial application.



CS-100-23235 herbicide

One pass, one solution for your most challenging fields

PrecisionPac® CS-100-23235 herbicide is a new, all-in-one blend for the dark brown, black and grey soil zones that combines our pyroxsulam and PrecisionPac PP-23235 herbicide together for uncompromising control of broadleaf and grassy weeds in spring and durum wheat.

Grassy	weeds	contro	lled

Barnyard grass (1-5 leaf)

Downy brome¹

(2-6 leaf, 4 tillers)

Green foxtail¹ (1-5 leaf)

Japanese brome (1-6 leaf)

Persian darnel¹ (1-4 leaf, 2 tiller)

Wild oats

(up to 4 leaf, 2 tiller)

Yellow foxtail (1-5 leaf)

Broadleaf weeds controlled

Annual smartweed (green smartweed, lady's-thumb)

Annual sow thistle³ Canada thistle¹

Cleavers (1-6 whorl)

Common chickweed

(up to 10 cm)

Corn spurry (up to 2 whorl stage, <10 cm in height)

Cow cockle

Dandelion (spring or fall rosettes up to 20 cm in height)

Flixweed

Hemp-nettle Kochia⁴

Lamb's-quarters

Narrow-leaved hawk's-beard

(up to 20 cm)

Night flowering catchfly Perennial sow thistle

Redroot pigweed

Round-leaved mallow (1-6 leaf,

<10 cm in size)
Russian thistle

Scentless chamomile

Shepherd's purse (up to 30 cm) Stinkweed

Stork's bill

Volunteer canola² (1-6 leaf)

Volunteer flax⁴
White cockle

Wild buckwheat

Wild mustard

⁴When tank-mixed with Perimeter® II Herbicide

Night-flowering catchfly



¹Suppression

² Including Group 2 herbicide tolerant canola varieties when tank-mixed with MCPA Ester.

³When tank-mixed with MCPA Ester



CS-100-23235 herbicide

Crops: Wheat (spring and durum)

Tank-mix Options:

Perimeter® II: For added broadleaf control including volunteer flax and kochia

2,4-D Ester: For additional kochia control, including group 2 biotypes

MCPA Ester: For control of volunteer Group 2 herbicide tolerant canola and annual sow thistle

Timing: Spring and durum wheat (3-leaf to before the flag leaf stage)

Crop rotation:

10 months: Field corn

11 months: Barley, canola, dry beans, flax, lentils, oats, peas, soybeans and spring wheat

② Application Information:

Rates: 41.15 g/ac

Acres per grower bag: Minimum: 50 acres; Maximum: 200 acres

Surfactant: Add a registered non-ionic surfactant (NIS) such as Agral® 90, Liberate® Adjuvant, Ag-Surf® II, HiActivate® Non-ionic Liquid Spreader/Activator, Super Spreader Adjuvant, Enhance®, Pro-Surf® II or Sentry® at 2.5 L per 1000 L of spray solution.

Rainfastness: Two (2) hours Water volume: 5-10 imp gal/ac

Mixing Instructions: Ensure that PrecisionPac® CS-100-23235 herbicide is fully dissolved

before adding tank-mix partners. For complete mixing instructions, see page 50.



CS-75-23235 herbicide

Wild oat activity, broadleaf performance, exceptional value

PrecisionPac® CS-75-23235 herbicide combines a reduced rate of our pyroxsulam and PrecisionPac PP-23235 herbicide in a cost-effective, all-in-one solution that delivers wild oat activity and exceptional broadleaf weed control for your spring and durum wheat.

Grassy weeds controlled

Japanese brome (1-4 leaf, 2 tiller; under good growing conditions)

Wild oats* (up to 4 leaf, 2 tiller)

Broadleaf weeds controlled

Annual smartweed (green smartweed, lady's-thumb)

Annual sowthistle4

Canada thistle1 (up to 15 cm)

Cleavers³

Common chickweed (1-6 leaf)

Cow cockle

Dandelion (spring or fall rosettes

up to 20 cm in diameter)

Flixweed

Hemp-nettle

Kochia³

Lamb's-quarters

Narrow-leaved hawk's-beard

(up to 20 cm)

Night flowering catchfly

Perennial sow thistle Redroot pigweed

Round-leaved mallow (1-6

leaf)

Russian thistle

Scentless chamomile

Stinkweed

Stork's bill

Volunteer canola²

(2-4 leaf)

Volunteer flax³ (up to 12 cm

in height)

White cockle

Wild buckwheat

Wild mustard

*For control of low wild oat populations (<75 plants/m²)

¹ Suppression

- ³ When tank-mixed with Perimeter® II Herbicide
- ⁴ When tank-mixed with MCPA Ester

Volunteer canola control



² Including Group 2 herbicide tolerant when tank-mixed with MCPA Ester.



CS-75-23235 herbicide

Crops: Wheat (spring and durum)

Tank-mix Options:

Perimeter® II: For added broadleaf control including volunteer flax, cleavers and kochia

2,4-D Ester: For additional kochia control, including group 2 biotypes

MCPA Ester: For control of volunteer Group 2 herbicide tolerant canola and annual sow

thistle

U Timing: Spring and durum wheat (3-leaf to before the flag leaf stage)

Crop rotation:

10 months: Field corn

11 months: Barley, canola, dry beans, flax, lentils, oats, peas, soybeans and spring wheat

② Application Information:

Rates: 34.15 g/ac

Acres per grower bag: Minimum: 50 acres; Maximum: 220 acres

Surfactant: Add a registered non-ionic surfactant (NIS) such as: Agral® 90, Liberate® Adjuvant, Ag-Surf® II, HiActivate® Non-ionic Liquid Spreader/Activator, Super Spreader Adjuvant, Enhance®, Pro-Surf® II or Sentry® at 2.5 L per 1000 L of spray solution.

Rainfastness: Two (2) hours Water volume: 5-10 imp gal/ac

Mixing Instructions: Ensure that PrecisionPac® CS-75-23235 herbicide is fully dissolved

before adding tank-mix partners. For complete mixing instructions, see page 50.



CS-100-12 herbicide

Customizable control and flexible application timing

For cereal growers, PrecisionPac® CS-100-12 herbicide is an all-new blend that controls a wide range of broadleaf and grassy weeds. PrecisionPac CS-100-12 herbicide is a cost-effective option for growers with lighter broadleaf weed pressure.

Grassy weeds controlled

Barnyard grass (1-5 leaf) Downy brome¹ (2-6 leaf,

4-tiller)

Green foxtail¹ (1-5 leaf)

Japanese brome (1-6 leaf)

Persian darnel¹ (1 leaf to 4 leaf, 2 tiller) Wild oats (up to 4-leaf, 2 tiller)

Yellow foxtail (1-5 leaf)

Broadleaf weeds controlled

Canada thistle¹ (up to 30 cm tall, pre-bud)

Cleavers (up to 6 whorl)

Common chickweed

Corn spurry (up to 2 whorl stage, less than 10 cm

height)

Cow cockle (up to 8 leaf)

Dandelion¹ (seedlings and overwintered rosettes less than or equal to 20 cm)

Flixweed

Green smartweed

Hemp-nettle (1-8 leaf)

Lamb's-quarters

Narrow-leaved hawk's beard (rosette)

Redroot pigweed (1-8 leaf)

Round-leaved mallow (up to 6-leaf, less than 10 cm)

Russian thistle

Shepherd's purse (up to 30 cm tall)

Smartweed (lady's-thumb,

1-5 leaf)

Stinkweed (up to 30 cm tall)

Volunteer canola² (1-6 leaf)

White cockle¹ (up to first flower, less than 20 cm stage)

Wild buckwheat

Wild mustard

¹Suppression.

²Including Group 2 herbicide tolerant when tank-mixed with MCPA Ester



CS-100-12 herbicide

Crops: Wheat (spring, durum and winter)

Tank-mix options for enhanced broadleaf weed control:

MCPA Ester: For enhanced broadleaf weed control including Group 2 herbicide tolerant canola

Perimeter® II: For added broadleaf control, including kochia

Timing:

Spring and durum wheat: 3 leaf to before flag leaf stage

Winter wheat: Apply in the spring when winter wheat is in the 2-7 leaf, 4 tiller stage

Crop rotation:

11 months: Barley, brown mustard, canola, dry bean (of the species *Phaseolus vulgaris*), flax, canola quality Brassica juncea, lentils, oats, field peas, chickpea, spring wheat, soybean and yellow mustard or fields can be summerfallowed.

10 months: Field corn, sunflower and potatoes

? Application Information:

Rates: 40 g/ac

Acres per grower bag: Minimum: 20 acres; Maximum: 200 acres

Surfactant: Add a registered non-ionic surfactant (NIS) such as: Agral® 90, Liberate® Adjuvant, Ag-Surf® II, HiActivate® Non-ionic Liquid Spreader/Activator, Super Spreader Adjuvant, Enhance®, Pro-Surf® II or Sentry® at 2.5 L per 1000 L of spray solution.

Rainfastness: Two (2) hours Water volume: 5-10 imp gal/ac

Mixing Instructions: Ensure that PrecisionPac® CS-100-12 herbicide is fully dissolved before adding tank-mix partners. For complete mixing instructions, see page 50.

PrecisionPac CS-100-12 herbicide is also registered for aerial application.





CS-75-12 herbicide

Meet your new broadleaf weed specialist

PrecisionPac® CS-75-12 herbicide is a new blend for cereal growers that delivers cost-effective control of broadleaf weeds including chickweed, lamb's-quarters and wild buckwheat. PrecisionPac CS-75-12 herbicide offers farmers an economical solution for growers with low wild oat pressure.

Grassy Weeds Controlled

Wild oats (up to 4 leaf, 2 tiller) for control of wild populations <75 plants/m² Japanese brome (1 leaf to 4 leaf, 2 tiller; under good growing conditions)

Broadleaf Weeds Controlled

Common chickweed Hemp-nettle Russian thistle

(1-6 leaf) Lamb's-quarters

Corn spurry Narrow-leaved hawk's beard Stinkweed
Cow cockle (seedlings and overwintered

Green smartweed (seedlings and overwintered Wild mustard rosettes prior to bolting)¹

Wild buckwheat (1-3 leaf)
Redroot pigweed

¹ Suppression





Smartweed (Lady's thumb)



CS-75-12 herbicide

Crops: Wheat (spring, durum and winter)

Timing:

Spring and durum wheat: 3 leaf to before flag leaf stage

Winter wheat: Apply in the spring when winter wheat is in the 2-7 leaf, 4 tiller stage

© Crop rotation:

11 months: Barley, brown mustard, canola, dry bean (of the species *Phaseolus vulgaris*), flax, canola quality Brassica juncea, lentils, oats, field peas, chickpea, spring wheat, soybean and yellow mustard or fields can be summerfallowed.

10 months: Field corn, sunflower and potatoes

② Application Information:

Rates: 33 g/ac

Acres per grower bag: Minimum: 20 acres; Maximum: 220 acres

Surfactant: Add a registered non-ionic surfactant (NIS) such as: Agral® 90, Liberate® Adjuvant, Ag-Surf® II, HiActivate® Non-ionic Liquid Spreader/Activator, Super Spreader Adjuvant, Enhance®, Pro-Surf® II or Sentry® at 2.5 L per 1000 L of spray solution.

Rainfastness: Two (2) hours Water volume: 5-10 imp gal/ac

Mixing Instructions: Ensure that PrecisionPac® CS-75-12 herbicide is fully dissolved before adding tank-mix partners. For complete mixing instructions, see page 50.

PrecisionPac CS-75-12 herbicide is also registered for aerial application.



Cross-Spectrum Herbicides Weed Control Summary

	CS-	CS-	CS-	CS-	CS-	CS-
BROADLEAF WEEDS	100-2525	75-2525	100-23235	75-23235	100-12	75-12
Annual smartweed		0				
(green, lady's thumb)	С	С	С	С	С	С
Canada thistle	S	S	S	S	S	
Cleavers (up to 6 whorl)	С		С		С	
Common chickweed (1-6 leaf)	С	С	С	С	С	С
Corn spurry	С		С		С	С
Cow cockle	С	С	С	С	С	С
Dandelion	S		С	С	S	
Flixweed	С	С	С	С	С	
Hemp-nettle	С	С	С	С	С	С
Lamb's-quarters	С	С	С	С	С	С
Narrow-leaved hawk's-beard	С	С	С	С	С	S
Night flowering catchfly	С	С	С	С		
Redroot pigweed	С	С	С	С	С	С
Round-leaved mallow	С		С	С	С	
Russian thistle	С	С	С	С	С	С
Scentless chamomile			С	С		
Shepherd's-purse	С		С		С	
Sow thistle (perennial)	С	С	С	С		
Stinkweed	С	С	С	С	С	С
Stork's-bill			С	С		
Volunteer canola*	С	С	С	С	С	С
White cockle			С	С	S	
Wild buckwheat	С	С	С	С	С	С
Wild mustard	С	С	С	С	С	С
GRASSY WEEDS						
Barnyard grass (1-5 leaf)	С		С		С	
Downy brome (2 - 6 leaf, 4 tillers)	S		S		S	
Green foxtail (1-5 leaf)	S		S		S	
Japanese brome (1-6 leaf)	С		С		С	
Japanese brome (1-4 leaf, 2 tiller)				С		С
Persian darnel (1 to 4 leaf, 2 tiller)			S		S	
Wild oats (up to 4 leaf, 2 tiller) Low population (<75 plants/m ₂)	С	С	С	С	С	С
Wild oats (up to 4 leaf, 2 tiller) High population (>75 plants/m ₂)	С		С		С	
Yellow foxtail (1 - 5 leaf)	C		С		С	

C - Control

S - Suppression

^{*} Excluding Group 2 herbicide tolerant varieties

Apply to young, actively growing weeds that are less than 10 cm in height or diameter, unless otherwise indicated



Cross-Spectrum Herbicides Application Information Summary

	CS- 100-2525	CS- 75-2525	CS- 100-23235	CS- 75-23235	CS- 100-12	CS- 75-12	
Rate	40.14	33.14	41.15	34.15	40	33	
	g/ac	g/ac	g/ac	g/ac	g/ac	g/ac	
Crop	Spring wheat and durum Winter wheat, spring wheat and durum				pring wheat		
Staging						Winter wheat: 2-7 leaf, 4 tiller stage	
Staying	3-leaf to before the flag leaf				Spring wheat and durum: 3-leaf to before the flag leaf		
Ground	V	√	√	\checkmark	√	√	
Application	22 L/acre						
Water Volume							
Air Application	√	√	Not Registered		V	√	
Water Volume	10 – 20 L/acre						
	When a tank mixture is used, consult the labels of the tank-mix partners						
Comments	Must have 0.25% v/v of registered adjuvant added. Registered adjuvants: Agral® 90, Ag-Surf® II, Liberate Adjuvant, HiActivate® Nonionic Liquid Spreader/Activator, Super Spreader Adjuvant, Enhance®, ProSurf II® and Sentry™						

Registered Tank Mixes

Product	Rate	Additional weeds controlled		
Wheat (spring, durum)				
MCPA Ester 500 or MCPA Ester 600	226 ml/ac (MCPA Ester 500) 190 ml/ac (MCPA Ester 600)	CS-100-23235, CS-75-23235: Weeds controlled or suppressed by herbicide alone, as well as annual sow thistle and volunteer Group 2 tolerant canola varieties (e.g. Clearfield* canola or other varieties with Group 2 tolerance). Apply when volunteer canola is in the 1-6 leaf stage with CS-100-23235 or 2-4 leaf stage with CS-75-23235. CS-100-2525, CS-75-2525: White cockle, dandelion (spring & fall rosettes, up to 15 cm in diameter), scentless chamomile, Group 2 herbicide tolerant canola (1-6 leaf stage)		
Perimeter II + 0.25% v/v adjuvant	85 ml/ac	CS-100-23235, CS-75-23235, CS-100-2525, CS-75-2525: for control of kochia (including Group 2 resistant biotypes, seedling to 8 leaf), volunteer flax. CS-75-23235: + cleavers (1-6 whorl). CS-100-2525, CS-75-2525: + stork's bill (1-6 leaf)		

FMC recommends to add a NIS at 0.25% v/v for all above tank mixes. FMC supports the following tank mixes that are not on **CS-100-12** and **CS-75-12** labels: Perimeter® II herbicide, MCPA Ester. Apply mix according to the most restrictive use limitations for either product. FMC Corporation supports the following mix that is not on all the listed PrecisionPac Cross Spectrum Herbicide labels. Apply mix according to the most restrictive use limitations for either product: 2,4-D ester.



Cross-Spectrum Herbicides Other Information

Mixing Instructions

Use mixing instructions as described in the Preparation and Application of Pesticides section of the Crop Guide.

Application Tips

Effectiveness may be reduced if spray mixture remains in the tank for more than 24 hours. Do not apply to crops underseeded to legumes or grasses as injury to forage may result.

How it Works

Absorbed by foliage. Inhibits cell elongation.

Expected Results

Cross Spectrum Herbicides stop the growth of susceptible weeds immediately. However, typical symptoms (discoloration) of dying weeds may not be noticeable for 1 - 3 weeks after application, depending on growing conditions and weed susceptibility. Degree of control and duration of effect depend on weed sensitivity, weed size, spray coverage and growing conditions.

Restrictions

Rainfall: 2 hours.

Grazing: May not be grazed or fed to livestock within 7 days of application. **Pre-harvest Intervals:** Allow 60 days between application and harvest. **Recropping:**

- Crops that can be seeded after applications of CS-100-23235, CS-75-23235:
 - 11 months after application: barley, canola, flax, lentils, oats, peas, soybeans, dry beans and spring wheat
 - 10 months after application: field corn.
- Crops that can be seeded after applications of CS-100-2525, CS-75-2525, CS-100-12, CS-75-12:
 - 11 months after application: barley, brown mustard, canola, dry bean (of the species Phaseolus vulgaris), flax, canola quality Brassica juncea, lentils, oats, field peas, chickpea, spring wheat, soybean and yellow mustard or fields can be summer fallowed
 - 10 months after application: sunflower and potatoes
- Crops that can be seeded after applications of CS-100-12, CS-75-12:
 - 10 months after application: field corn

Toxicity

Low oral toxicity. Oral LD_{so} (rats) > 5000 mg/kg. Potential skin sensitizer, eye irritant.

Storage

Store product in original container only, away from other pesticides, fertilizer, food or feed. Not for use or storage in or around the home. Keep container closed.



Additional products designed for use with PrecisionPac® herbicides

46 Perimeter® II herbicide



Perimeter® II herbicide

Perimeter® II herbicide

This Group 4 herbicide can be tank-mixed with several PrecisionPac® herbicides to help manage weed resistance and improve control of cleavers and several other broadleaf weeds. It can be used on wheat (spring, durum, winter), oats and barley.

Major weeds controlled (refer to label for specific rates)					
Cleavers (1–8 whorls)	Kochia (2–8 leaf)	Volunteer flax			
Chickweed (up to 8 cm)	(including Group 2-resistant)	(1–12 cm)			
(including Group 2-resistant)	Round-leaved mallow (1-6 leaf)				
Weeds suppressed					
Hemp-nettle (2-6 leaf)	Stork's-bill (1-8 leaf)	Wild buckwheat (1-4 leaf)			

- Crops: Wheat (spring, durum, winter), barley and oats
- Tank-mix Options:
 - PP-2525 herbicide
 CS-100-2525 herbicide
 CS-75-23235 herbicide
 CS-75-2525 herbicide
 CS-100-12 herbicide
 PP-3317 herbicide
 CS-100-23235 herbicide
 CS-75-12 herbicide
- ➡ Timing: Apply to actively growing wheat, oats and barley from the 2-leaf crop growth stage up to and including initiation of stem elongation.
- Crop Rotation: Following year: Alfalfa, barley, canola, corn, dry beans, faba beans, flax, forage grasses, lentils, mustard, oats, peas, potatoes, soybeans, sugar beets, sunflowers, rye or wheat fields can be summerfallowed.
- **Packaging:** 3.4 L, 80 L Jug (333 g/L)
- **② Application Information:** Refer to individual labels for application information

Water Volume: 5 imp. gal/ac. Rainfastness: One (1) hour

Mixing Instructions: For complete mixing instructions, see page 50.

Other Resources

- 48 Best Practices for Applying FMC Soluble Granule (SG) formulations
- 49 Solumax® soluble granules
- 50 Herbicide Mixing Instructions
- 52 Certified PrecisionPac® Herbicide Retailers



Best practices for applying FMC Soluble Granule (SG) formulations

1. Ensure the Soluble Granules have Dissolved

After water, FMC SG herbicides should always be added to the tank **first**. Agitating after adding FMC SG herbicides is the key step to ensure there are no issues at the back end of the sprayer. Make sure the SG herbicides have completely dissolved before adding tank mix partners and/or glyphosate. If a grower is seeing gumming up of nozzles, this is most likely the cause.

What can the applicator do if there is a problem?

- Always use 50 mesh screens.
- Grower can add Finish (ammonia) to the tank to help finish dissolving the granules.

2. Repeat Tank Loads

For repeat tank loads, reduce the spray solution in the tank to 10% of the original volume or less before proceeding with fill.

- Remaining chemicals may prevent the SG herbicides from completely dissolving.
- If this is not possible, pre-slurry the SG herbicide in at least 20 litres of water... the more water the better. Use this amount for at least every 80 acres of product. Mixing 240 acres in a 10 litre jug does not WORK!!!
- Once dissolved, SG herbicides will not settle out
- Do not let the spray solution sit for more than 24 hours.
- When spraying multiple tanks over multiple days
 - Flush out the interior of the tank at the end of the day, fill tank half full, add Finish (7% ammonia), charge booms and leave overnight.
 - 10 litre jug of Finish for 400 gallons of water

3. Do not use GLYPHOSATE CONDITIONERS

FMC SG herbicides are optimized in a high pH spray solution. Glyphosate products are weak acids that lower the pH of the spray solution. When a glyphosate conditioner is added, it further reduces the pH of the spray solution which inhibits SG herbicides from going into solution.

- Do not use LI 700[®]
- Do not use pHix (Omex)
- Do not use N-pHuric

4. Impact of Cold Water

Cold water can also slow the dissolution of FMC SG herbicides in solution.

- Provide adequate time for FMC SG herbicides to dissolve
- If possible, fill nurse tanks ahead of time, allowing the water to warm up







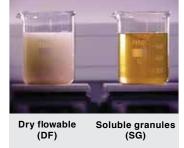
The convenience and benefits of a dry herbicide that works like a liquid

Many sulfonylurea herbicides from FMC are formulated using the unique technology of Solumax® soluble granules to deliver active ingredients that completely dissolve in water, creating a clear solution. That means you get all the convenience and benefits of a dry herbicide that works just like a liquid.

Here are the three (3) key benefits:

1. Solumax will save you time, money and water with easier sprayer cleanout.

Products powered by Solumax fully dissolve into solution so less active adheres to the sides of the tank and particles won't clog nozzles or become trapped in filters or other pinch points. In tests, cleanout times were reduced by up to 70% when compared to a DF herbicide.



Remember, not all dry herbicides are alike! If your dry herbicide isn't powered by Solumax, you may not be maximizing your weed control and putting your operations at risk.

2. Lower risk to sensitive crops.

Because it is easier to remove product residue from the tank, the impact to subsequently sprayed crops like peas or canola is minimized.

3. Consistent weed control.

Solumax increases the bioavailability of the active ingredient to the weed. The active is rapidly absorbed into the weed, which provides fast, effective and consistent weed control.





Herbicide mixing instructions for herbicides powered by Solumax[®] soluble granules.

Tank-mixtures: Fill spray tank one-half to two-thirds full with water. With agitator operating, add the recommended amount of ingredients using the **WAMLEGS** order:

Wettable powders, dispersible granules, soluble granules (WG, DF, SG, WP, SP)

Agitate tank-mix thoroughly

Micro-encapsulated suspensions (ME)

Liquid flowables and suspensions (SC, SL, SN, Li, SU, SE)

Emulsifiable concentrate formulations (EC) – Fill spray tank nearly full with water

Glyphosate formulations

Surfactants - Complete filling the spray tank to the desired level

If sprayer has been stored or idle, purge the spray boom and nozzles with clean water before charging sprayer with products to be applied.

Special mixing instructions for soluble granule (SG) herbicides when using a CHEM HANDLER:

- 1. Ensure the chem handler is clean (rinsed with ammonia).
- 2. For best results, add the SG herbicide to the top of the sprayer tank.
- 3. If you do use a chem handler, make sure that all of the SG herbicide is completely dissolved and injected into the main tank with agitation before adding other chemicals.
- 4. Low water volumes in some chem handlers can cause the water to become saturated with soluble granules, leaving undissolved granules. In that case, rinse the chem handler with clean water before adding any other chemicals.
- 5. Always dissolve the soluble granules with agitation in the main tank before adding a tankmix partner.

Note: Follow the clean-out procedure recommended for sprayer tanks for the chem handler.





Notes



Alberta

Certified PrecisionPac® Herbicide Retailers

Parrish & Heimbecker Limited

7 1110 01 101			
Agro Plus Holdings		Sedgewick	(780) 384-2265
Foremost	(403) 647-6213	Wainwright	(780) 842-3306
Agro Plus Inc.		Richardson Pioneer	
Dunmore	(403) 487-2906	Dunmore	(403) 527-6600
Lethbridge	(403) 327-7070	Hussar	(403) 787-3931
Cash Chem		Lamont	(780) 895-2353
Ponoka	(403) 704-3957	Magrath	(403) 758-3162
Central Alberta Coop Ltd.		Nampa	(780) 322-3737
Innisfail	(403) 227-3466	Oyen	(403) 664-2620
Consort Agro Services		Provost	(780) 753-8415
Consort	(403) 577-3020	Stirling	(403) 756-3452
Crop Management Network Inc.		Three Hills	(403) 443-2548
Edberg	(780) 877-0003	Vermilion	(780) 853-6565
Foster's Seed and Feed Ltd.		Veteran	(403) 575-4600
Beaverlodge	(780) 354-2107	Vulcan	(403) 485-6696
Kneehill Soil Services Ltd.		Waskatenau	(780) 358-2720
Linden	(403) 546-4050	Schoorlemmer Seeds Ltd.	
McEwen's Fuels & Fertilizers Inc.		Rycroft	(780) 864-5949
Fort Saskatchewan	(780) 998-2058	Smoky Seed Company	
Neerlandia Coop Association Ltd.		Guy	(780) 837-1334
County of Barrhead	(780) 674-3020	South Country Coop Limited	
Nutrien Ag Solutions		Medicine Hat	(403) 528-6609
Coronation	(403) 578-3302	St. Isidore Co-op Ltd.	
Crossfield	(403) 946-4588	Falher	(780) 837-2205
Delia	(403) 364-3735	United Farmers of Alberta	
Edgerton	(780) 755-3734	Airdrie	(403) 948-5913
Enchant	(403) 739-2012	Grande Prairie	(780) 532-1281
Fort Macleod	(403) 553-3774	Westview Coop Ltd.	
Hairy Hill	(780) 768-3825	Hanna	(403) 854-2820
Leduc	(780) 985-2449	British Columbia	
Medicine Hat	(403) 526-9499	Agro Source Ltd.	
Rycroft	(780) 765-2865	Dawson Creek	(250) 782-4449
Sexsmith	(780) 568-6060	Nutrien Ag Solutions	(11, 11
Strathmore	(403) 934-2204	Fort St. John	(250) 785-3445
Strome	(780) 376-3552	Manitoba	(,
St Paul	(780) 645-5915		
Sturgeon County	(780) 998-2808	Ag Advantage	
Vermilion	(780) 853-4711	Marquette	(204) 322-5351
Warner	(403) 642-3951	GJ Chemical Co. Ltd.	
Westlock	(780) 349-4525	Arnaud	(204) 427-2337

Nutrien Ag Solutions		Paradise Hill	(306) 344-2229
Beausejour	(204) 268-3497	Pasqua	(306) 692-3644
Carberry	(204) 834-2180	Perdue	(306) 237-4304
Ninga	(204) 534-6806	Prairie River	(306) 889-2172
Pembina Coop		Regina	(306) 757-3501
Swan Lake	(204) 836-2109	Swift Current	(306) 773-3181
Richardson Pioneer		Weyburn	(306) 842-5471
Landmark	(204) 355-4061	Parrish & Heimbecker Limited	
Sierens Seed Service		Yorkton	(306) 782-2814
Somerset	(204) 744-2883	Pasquia Agro Services	
Saskatchewan		Carrot River	(306) 768-3888
Blair's Fertilizer Limited		Paterson Grain Crop Inputs	
Lanigan	(306) 365-3150	Assiniboia	(306) 642-4295
Liberty	(306) 847-4444	Pioneer Coop	
McLean	(306) 699-2822	Frontier	(306) 296-2233
Nokomis	(306) 528-3150	Pioneer Coop Agronomy Centr	е
Rosthern	(306) 232-4223	Swift Current	(306) 778-8876
Watrous	(306) 946-3150	Precision Ag Services Inc.	
Cargill Limited		Carlyle	(306) 453-2255
Clavet	(306) 242-5400	Griffin	(306) 457-2220
Unity	(306) 228-4144	Rack Petroleum	
Clearview Agro		Broderick	(306) 867-8371
Invermay	(306) 593-2234	Richardson Pioneer	
Emerge Ag Solutions Inc.		Delisle	(306) 717-6197
Eston	(306) 962-4132	Grenfell	(306) 697-3377
G-Mac's AgTeam Inc.		Langenburg	(306) 743-2252
Eatonia	(306) 967-2211	Maple Creek	(306) 662-2420
Plenty	(306) 932-4622	Pasqua	(306) 691-0256
Rosetown	(306) 882-2600	Saskatoon	(306) 249-2200
Hawk's Agro		Southey	(306) 726-2110
Central Butte	(306) 796-4787	River Valley Ag	
Gravelbourg	(306) 648-3110	Saskatoon	(306) 978-9094
Neville	(306) 773-0700	Saskatoon Cooperative Associ	
Pasqua	(306) 624-2399	Saskatoon	(306) 933-3835
Rouleau	(306) 776-4787	Sharpe's Crop Services.	
Strongfield	(306) 860-7891	Langenburg	(306) 743-2677
Innova Ag Solutions Inc.		Super Seed Inc.	(000) 405 0707
Central Butte	(306) 796-2102	Yellow Grass	(306) 465-2727
Kenzie Seeds Inc.		SWT	(000) 507 7004
Wadena	(306) 338-3505	Cabri	(306) 587-7684
Meadow Lake Cooperative Ass	sociation	Gull Lake	(306) 672-4112
Meadow Lake	(306) 236-3644	Hazenmore	(306) 264-3250
Nutrien Ag Solutions		Kyle	(306) 375-1333
Balcarres	(306) 334-2440	Shaunavon	(306) 297-4045
Humboldt	(306) 682-2509	Wymark	(306) 778-0555
Kerrobert	(306) 834-5007	SynergyAG Services Corp.	(200) 404 4000
Kincaid	(306) 264-1000	Govan	(306) 484-1000
Landis	(306) 658-2002	Kronau	(306) 245-3739
Lucky Lake	(306) 858-2188	Yorkton	(306) 782-3276











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